

REMARKS

The office action dated December 18, 2002 (paper #12), and the references cited therein have been carefully considered. In view of the amendments presented herewith, and based on the following remarks, Applicant submits that the instant application is in condition for allowance.

Specification

The Examiner objected to the description of Fig 9a in the paragraph beginning on page 6 line 14. The Applicant has amended the paragraph to effect a suitable editorial revision to change Fig. "9a" to Fig. "9b" in such paragraph. The Applicant also effected a conforming editorial revision of the paragraph beginning on page 6 line 20.

Claim Objections

The Examiner objected to claims 11 and 42 based on formal matters. The Examiner objected to the term "a least one" in claim 11 and to the term "an the at least" in claim 42. Applicant has amended claims 11 and 42 to effect suitable responsive editorial revisions that do not alter the scope or substance of the claims.

Claim Rejections - 35 U.S.C. § 112

Claims 4, 7-9, 15-16, 19-21, 26, 29-31, 37, 40-41 and 44 were rejected as being indefinite. The Examiner specifically objected to the terms "stapler/cutter" and "driver/cutter" used in claims 7-9, 19-21, 29-31, 37, 41 and 44. Applicant has amended claims 7-9, 19-21, 29-31, 37 and 41 solely to effect editorial revisions which do not alter the scope or substance of the claims. Original claim 44 did not recite either a "stapler/cutter" or "driver/cutter" and therefore was not amended in this

regard.

Claims 4, 15, 16 and 26 were rejected based on formal matters. The Examiner objected to the term “the first data” as lacking an antecedent basis. The Applicant has amended claims 4, 15 and 26 to effect suitable editorial revisions that so not alter the scope or substance of the claims.

The Examiner rejected claim 40 as being indefinite. Applicant submits that the meaning of “attachment detachably attachable” is clear on its face. However, the Applicant has amended claim 40 to recite an “attachment removably connectible”.

The Examiner rejected claim 44 based on formal matters. The Examiner objected to the term “the second gear arrangement” as lacking a sufficient antecedent basis. Applicant has amended claim 44 to effect a suitable editorial revision that identifies the base claim of dependent claim 44 as claim 42 instead of claim 33.

Claim Rejections - 35 U.S.C. § 103

The Examiner rejected claims 1, 4-6, 10, 12, 15-18, 23 and 26-28 as being obvious over U.S. Patent No. 5,383,874 (Jackson et al.) in view of U.S. Patent No. 5,400,267 (Denen et al.). Claims 2, 3, 7-9, 11, 13, 14, 19-22, 24, 25 and 29-32 were rejected as being obvious over Jackson et al. in view of Denen et al. and in further view of U.S. Patent No. 6,119,913 (Adams et al.). Claims 33-41 and 43 were rejected as being obvious over Adams et al. Lastly, claims 42 and 44 were rejected as being obvious over Adams et al. in view of U.S. Patent No. 5,433,721 (Hooven). The Applicant respectfully requests that the obviousness rejections be reconsidered in light of the Applicant’s amendments and the following remarks.

Claims 1, 4-6, 10, 12, 15-18, 23 and 26-28

Independent claims 1, 12 and 23 were amended to recite “a surgical instrument configured for complete insertion into a body for use with an electro-mechanical surgical device”, and “a memory unit housed inside the surgical instrument and

adapted for complete insertion in the body with the instrument.” Jackson et al. discloses a catheter 14 having an identification means 76 carried in the catheter handle 20. (Col. 6, lines 58-61; Fig. 1). The catheter handle 20 is not configured for complete insertion into the body, and the identification means 76 in the handle is not adapted for complete insertion in the body. Therefore, Jackson et al. fails to teach or suggest an instrument configured for complete insertion into a body, as claimed in amended claims 1, 12 and 23. Denen et al. discloses a scalpel 10 having a handle 11, a blade 12 and a memory 30 disposed within the handle. There is no suggestion in Denen et al. that the handle 11 is configured to be inserted into the body with the blade. Therefore, the combination of Jackson et al. and Denen et al. does not teach or suggest the instrument as claimed in amended claims 1, 12 and 23. Accordingly, such claims are patentable over the combination of Jackson et al. and Denen et al.

Claims 4-6, 10, 15-18 and 26-28 are dependent on amended claims 1, 12 and 23 and incorporate all the features of claims 1, 12 and 23. Therefore, dependent claims 4-6, 10, 15-18 and 26-28 are patentable over Jackson et al. and Denen et al. for at least the same reasons that claims 1, 12 and 23 are patentable.

Claims 2, 3, 7-9, 11, 13, 14, 19-22, 24, 25 and 29-32

The Examiner rejected claims 2, 3, 7-9, 11, 13, 14, 19-22, 24, 25 and 29-32 as being unpatentable over Jackson et al. in view of Denen et al. and in further view of Adams et al. Claims 2, 3, 13, 14, 24, and 25 were amended to recite a surgical instrument having at least one “connector configured to removably couple with” a drive shaft of the electro-mechanical surgical device. Jackson et al. discloses a catheter connected to a cable, but the cable only includes plugs for conveying radio-frequency energy, and does not include a rotatable drive shaft or a connector that removably couples with a rotatable drive shaft. (Col. 3, lines 10-13). Denen et al. discloses a scalpel connected to a cable 13, but the cable is only a power cord and does not include a rotatable drive shaft or a connector that removably couples with a rotatable drive shaft. Adams et al. discloses an endoscopic stapler with a stapling head 12 and a pair of rotatable control wires 22, 24, but there is no suggestion that the control wires are “removably coupled” to connectors on the stapling head. The

stapling head 12 and control wires 22, 24 appear to be connected in a gear arrangement (Fig. 5), but the gear arrangement is not described, and there is no suggestion that the gear arrangement is removably coupled to the control wires. Therefore, claims 2, 3, 13, 14, 24, and 25 are patentable over the combination of Jackson et al., Denen et al. and Adams et al. because the combined references fail to teach or suggest a connector configured to removably couple with a drive shaft. This is not a trivial distinction. Indeed, with Applicant's claimed system, different instruments may be easily coupled and removed from the drive shaft. Dependent claims 7-9, 11, 19-22, and 29-32 incorporate subject matter from claims 2, 13 and 24 and therefore are patentable for at least the same reasons that claims 2, 13 and 24 are patentable.

Claims 33-41 and 43

The Examiner rejected claims 33-41 and 43 as being obvious over Adams et al. Adams et al. does not teach or suggest a gear arrangement "configured to convert a high-speed rotation of the rotatable drive shaft to drive the at least one driven element at a high-torque" as recited in claim 33. Instead, Adams et al. only teaches a control wire 22 connected to a splined roller, and a control wire 24 coupled to a worm gear 64. (Col. 7, lines 12-14, 44-46). The Examiner contends that it would have been obvious to one having ordinary skill in the art to modify the device in Adams et al. to select high speed rotation and torque over standard or slow rotation, but provides no evidence that suggests a motivation for such a change. Therefore, Applicant respectfully requests that the Examiner reconsider this obviousness rejection. In the event that the Examiner maintains this rejection, Applicant requests that the Examiner provide evidence of record that supports a motivation for changing the device in Adams et al.

Claim 33 has been amended to claim "an electro-mechanical surgical system" comprising "at least one rotatable drive shaft removably attachable to the surgical instrument". Adams et al. does not teach or suggest a rotatable drive shaft

“removably attachable” to a surgical instrument. As discussed above, Adams et al. discloses a stapling head 12 and a pair of rotatable control wires 22, 24, but there is no suggestion that the control wires are removably coupled to connectors on the stapling head. The stapling head 12 and control wires 22, 24 appear to be connected in a gear arrangement (Fig. 5), but the gear arrangement is not described, and there is no suggestion that the gear arrangement is removably coupled to the control wires. Therefore, amended claim 33 is patentable over Adams et al.

Claims 34-41 and 43 incorporate all the features of amended claim 33 and therefore are patentable over Adams et al. for at least the same reasons that amended claim 33 is patentable. In addition, claims 34-41 and 43 recite other features that are not taught or suggested by Adams et al. For example, claim 40 recites “a surgical attachment removably connectible to the distal end of the first and second rotatable drive shafts.” Adams et al. does not teach or suggest a surgical attachment removably connectible to the distal end of first and second rotatable drive shafts. As discussed above, the stapling head 12 and control wires 22, 24 appear to be connected in a gear arrangement (Fig. 5), but the gear arrangement is not described, and there is no suggestion that the gear arrangement is removably coupled to the control wires. Therefore, Applicant requests that the Examiner reconsider the rejections to claims 33-41 and 43.

Claims 42 and 44

The Examiner rejected claims 42 and 44 as being obvious over Adams et al. in view of Hooven. Claims 42 and 44 incorporate all the features of claim 33 and therefore are patentable for at least the same reasons that claim 33 is patentable. In addition, claims 42 and 44 include other features not taught or suggested by the combination of Adams et al. and Hooven. For example, claim 42 recites “a second gear arrangement disposed between the motor arrangement and the at least one rotatable drive shaft, the second gear arrangement configured to convert a high torque transmitted by the motor arrangement to rotate the at least one rotatable drive shaft at the high speed”. Adams et al. does not teach “a second gear arrangement” of this kind. Adams et al. only teaches a pair of control wires 22, 24 coupled to “rotating

means”, with no disclosure of any structural features or any description of how the rotating means cooperate with the control wires. (Col. 6, lines 31-36). Hooven teaches a magnet motor 203 having an output shaft connected to a gear train, but the gear train converts high speed of the motor output shaft to high torque in the drive shaft, not high torque to high speed. Therefore, the combination of Adams et al. and Hooven does not teach or suggest a second gear arrangement “configured to convert a high torque transmitted by the motor arrangement to rotate the at least one rotatable drive shaft at the high speed”, as recited in claim 42 and incorporated in amended claim 44. Therefore, claims 42 and 44 are patentable over Adams et al. in view of Hooven.

In light of the foregoing amendments and new claims, the Applicant believes that the application is in condition for allowance. The Examiner is encouraged to contact the Applicant’s undersigned attorney if the Examiner believes that issues remain regarding the allowability of this application.

Respectfully submitted,

DANN DORFMAN HERRELL & SKILLMAN
A Professional Corporation
Attorneys for Applicant

By


Donald R. Piper, Jr.
PTO Registration No. 29,337

Telephone: (215) 563-4100
Facsimile: (215) 563-4044